

IN THE CLAIMS:

The text of all pending claims, (including withdrawn claims) is set forth below. Cancelled and not entered claims are indicated with claim number and status only. The claims as listed below show added text with underlining and deleted text with ~~strikethrough~~. The status of each claim is indicated with one of (original), (currently amended), (cancelled), (withdrawn), (new), (previously presented), or (not entered).

Please CANCEL claims 2; AMEND claims 1, 3, 5 and 9 in accordance with the following:

1. (CURRENTLY AMENDED) A compiler embodied on a medium to compile a source program in an object-oriented programming language, said compiler comprising:

during generating an intermediate language from said source program,
identifying a class-type variable which has a possibility to be executed in parallel;
allocating a construction and destruction instruction information region in said intermediate language of the class in addition to a region for a construction instruction routine and a region for a destruction instruction routine; and

storing into said construction and destruction instruction information region, information concerning said construction instruction routine and said destruction instruction routine of an object of the class, and

during generating object codes,

detecting that a certain class-type variable is contained in an execution statement to be executed in parallel or a certain class-type variable is specified in a parallelization directive as a class to be parallelized;

generating an instruction to call a said construction instruction routine for an object of the class upon the detection, before said execution statement to be executed in parallel or an execution statement to be parallelized by said parallelization directive, by using said intermediate language including said information stored in said construction and destruction instruction information region, in order to generate said object in addition to an original object of the class; and

generating an instruction to call a said destruction instruction routine for the generated object of the class upon the detection, after said execution statement to be executed in parallel or said execution statement to be parallelized by said parallelization directive, by using said intermediate language including said information stored in said construction and destruction instruction information region, in order to destruct the generated object in addition to said original

object of the class.

2. (CANCELLED)

3. (CURRENTLY AMENDED) The compiler according to claim ~~2~~1, wherein said construction and destruction instruction information region is linked from a type information region storing a construction and destruction instruction information region index, and said type information region is linked from a class information region storing a type information region index, and when a class is identified, an access is performed from said class information region to said construction and destruction instruction information region via said type information region.

4. (ORIGINAL) The storage medium according to claim 1, wherein said compiler is a compiler for a parallel computer with shared memory.

5. (CURRENTLY AMENDED) A compiling apparatus for compiling a source program in an object-oriented programming language, comprising:

a first generator which generates during generating object codes, upon a detection of a certain class-type variable is contained in an execution statement to be executed in parallel or a certain class-type variable is specified in a parallelization directive as a class to be parallelized, an instruction to call a construction instruction routine for an object of the class, before said execution statement to be executed in parallel or said execution statement to be parallelized by said parallelization directive, in order to generate said object in addition to an original object of the class; and

a second generator which generates an instruction to call a destruction instruction routine for the generated object of the class upon the detection, after said execution statement to be executed in parallel or said execution statement to be parallelized by said parallelization directive, in order to destruct the generated object in addition to said original object of the class, wherein during generating an intermediate language from said source program a class-type variable which has a possibility to be executed in parallel is identified.

construction and destruction instruction information region are allocated in said intermediate language of the class in addition to a region for said construction instruction routine and a region for said destruction instruction routine, where information concerning said

construction instruction routine and said destruction instruction routine of an object of the class are stored into said construction and destruction instruction information region, and
the instructions to call said construction and destruction instruction routines are
generated using said intermediate language including said information stored in said
construction and destruction instruction information region.

6. (PREVIOUSLY PRESENTED) The compiling apparatus according to claim 5, further comprising:

an allocator that allocates a construction and destruction instruction information region in the intermediate language of the class in addition to a region for said construction instruction routine and said destruction instruction routine during generation of an intermediate language from said source program, when a class-type variable which has possibility to be executed in parallel is specified; and

a storing unit that stores into said construction and destruction instruction information region, information concerning a construction instruction routine and a destruction instruction routine of an object of the class, and

wherein information stored in said construction and destruction instruction information region is used by said first and second generators.

7. (PREVIOUSLY PRESENTED) The compiling apparatus according to claim 6, wherein said construction and destruction instruction information region is linked from a type information region storing a construction and destruction information region index, and said type information region is linked from a class information region storing a type information region index, and when a class is identified, an access is performed from said class information region to said construction and destruction instruction information region via said type information region.

8. (PREVIOUSLY PRESENTED) The compiling apparatus according to claim 5, wherein said compiling apparatus is a compiling apparatus for a parallel computer with shared memory.

9. (CURRENTLY AMENDED) A compiling method for compiling a source program in an object-oriented programming language, said compiling method comprising:

during generating an intermediate language from said source program,
identifying a class-type variable which has a possibility to be executed in parallel;
allocating construction and destruction instruction information regions for a construction
instruction routine and a region for a destruction instruction routine; and
storing into said construction and destruction instruction information regions, information
concerning said construction instruction routine and said destruction instruction routine of an
object of the class, and

during generating object codes,

detecting that a certain class-type variable is contained in an execution statement to be executed in parallel or a certain class-type variable is specified in a parallelization directive as a class to be parallelized;

generating an instruction to call a said construction instruction routine for an object of the class upon the detection, before said execution statement to be executed in parallel or said execution statement to be parallelized by said parallelization directive, by using said intermediate language including said information stored in said construction and destruction instruction information region, in order to generate said object in addition to an original object of the class; and

generating an instruction to call a said destruction instruction routine for the generated object of the class upon the detection, after said execution statement to be executed in parallel or said execution statement to be parallelized by said parallelization directive, by using said intermediate language including said information stored in said construction and destruction instruction information region, in order to destruct the generated object in addition to said original object of the class.

10. (PREVIOUSLY PRESENTED) The compiling method according to claim 9, further comprising :

when generating an intermediate language from said source program, allocating a construction and destruction instruction information region in the intermediate language of the class in addition to a region for said construction instruction routine and said destruction instruction routine, when a class-type variable which has possibility to be executed in parallel is specified; and

storing into said construction and destruction instruction information region, information concerning said construction instruction routine and said destruction instruction routine of an

object of the class, and

wherein said information stored in said construction and destruction instruction information region is used in said generating of said instruction to call said construction instruction routine and generating of said instruction to call said destruction instruction routine.

11. (PREVIOUSLY PRESENTED) The compiling method according to claim 10, wherein said construction and destruction instruction information region is linked from a type information region storing a construction and destruction information region index, and said type information region is linked from a class information region storing a type information region index, and when a class is identified, an access is performed from said class information region to said construction and destruction instruction information region via said type information region .

12. (ORIGINAL) The compiling method according to claim 9, wherein said compiling method is a compiling method for a parallel computer with shared memory.